

A COVID-19 Pandemic Deathtrap: The Peril of Subacute Nursing Facilities Following Hip Fracture

Sanjit R Konda¹, Garrett Esper, Ariana T Meltzer-Bruhn, Abhishek Ganta², Kenneth A Egol¹

¹NYU Langone Medical Center, ²NYU Hospital For Joint Diseases

INTRODUCTION:

COVID-19 impacted the ability of rehabilitation centers to accept patients from a hospital setting, especially early in the pandemic with continuously changing guidelines. This study compares discharge locations and subsequent outcomes before and during the COVID pandemic. We hypothesize that pattern changes in discharge location during the pandemic impacted functional outcomes, mortality, and readmission rates.

METHODS:

Two matched cohorts of 100 hip fracture patients treated pre-COVID (February-May 2019) and during COVID (February-May 2020) were reviewed for discharge locations, COVID status on admission, readmissions, and inpatient and 1-year mortality, and 1-year functional outcomes (EQ5D-3L). Discharge locations were home [home independently or home with health services (HHS)] vs. facility [subacute nursing facility (SNF) or acute rehabilitation facility (ARF)]. Patients were excluded if they died inpatient, were transferred, or discharged to hospice. Comparative analyses were conducted.

RESULTS:

In COVID+ patients, 93% were discharged to a facility, 62% of whom passed away within 1 year of discharge. Of COVID+ patients discharged to a SNF, 80% died within 1 year. Patients discharged to a SNF in 2020 were 1.8x more likely to die within 1 year compared to 2019 (p=0.029). COVID- patients discharged to a SNF in 2020 had a 3x increased 30-day mortality rate and 1.5x increased 1-year mortality rate compared to 2019. Patients discharged to an ARF in 2020 had higher rates of 90-day readmission. There was no difference in functional outcomes.

DISCUSSION AND CONCLUSION: The onset of the COVID pandemic changed discharge locations for geriatric hip fracture patients. COVID positivity coupled with discharge to SNF negatively impacted 30-day and 1-year mortality rates during the initial stages of the COVID-19 pandemic.

Table 1: Discharge Locations in 2019 vs. 2020: Examination of Differences, 30-day Mortality, and 1-year Mortality

2019 vs. 2020 Discharge Location & Mortality Comparison									
	2019			2020			P-Values		
	N (%) ¹	<30 Day Mortality ²	1-Year Mortality ³	N (%) ¹	<30 Day Mortality ²	1-Year Mortality ³	P ¹	P ²	P ³
Total N (%)	100 (100.00%)	3 (3.00%)	18 (18.00%)	100 (100.00%)	9 (9.00%)	34 (34.00%)	-	0.074	0.010
FACILITY	84 (84.00%)	3 (3.57%)	16 (19.05%)	72 (72.00%)	7 (9.72%)	25 (34.72%)	0.041	0.118	0.027
SNF	70 (70.00%)	3 (4.29%)	15 (21.43%)	56 (56.00)	7 (12.50%)	22 (39.29%)	0.036	0.090	0.029
COVID+	-	-	-	10 (17.86%)	1 (10.00%)	8 (80.00%)	-	-	-
COVID-	70 (100.00%)	3 (4.29%)	15 (21.43%)	46 (82.14%)	6 (13.04%)	14 (30.43%)	0.021	0.085	0.273
ARF	14 (14.00%)	0 (0.00%)	1 (7.14%)	16 (16.00%)	0 (0.00%)	3 (18.75%)	0.690	-	0.351
COVID+	-	-	-	3 (18.75%)	0 (0.00%)	0 (0.00%)	-	-	-
COVID-	14 (100.00%)	0 (0.00%)	1 (7.14%)	13 (81.25%)	0 (0.00%)	3 (23.08%)	0.829	-	0.244
HOME	16 (16.00%)	0 (0.00%)	2 (12.50%)	28 (28.00%)	2 (7.14%)	9 (32.14%)	0.041	0.274	0.148
Home Ind.	6 (6.00%)	0 (0.00%)	1 (16.67%)	21 (21.00%)	1 (4.76%)	7 (33.33%)	<0.01	0.586	0.430
COVID+	-	-	-	1 (4.76%)	0 (0.00%)	1 (100.00%)	-	-	-
COVID-	6 (100.00%)	0 (0.00%)	1 (16.67%)	20 (95.24%)	1 (5.00%)	6 (30.00%)	<0.01	0.576	0.518
HHS	10 (10.00%)	0 (0.00%)	1 (10.00%)	7 (7.00%)	1 (14.29%)	2 (28.57%)	0.420	0.218	0.323
COVID+	-	-	-	0 (0.00%)	0 (0.00%)	0 (0.00%)	-	-	-
COVID-	10 (100.00%)	0 (0.00%)	1 (10.00%)	7 (100.00%)	1 (14.29%)	2 (28.57%)	0.661	0.218	0.323

SNF = Skilled Nursing Facility; ARF = Acute Rehab Facility; Home Ind. = Home Independently; HHS = Home with Health Services